Note: Performing your original search, ***"Endothelial Cell Surface Heparan sulfate" coating***, in PubMed will retrieve ***2*** citations.

1: Semin Thromb Hemost. 1997;23(2):215-23.

Which glycosaminoglycans are suitable for antithrombogenic or athrombogenic coatings of biomaterials? Part II: Covalently immobilized endothelial cell surface heparan sulfate (ESHS) and heparin (HE) on synthetic polymers and results of animal experiments.

Baumann H, **Keller R**.

Macromolecular Chemistry and Textile Chemistry, Hemacompatible Biomaterials and Soft Tissue Implants, RWTH Aachen, Germany.

A systematic study was performed on immobilizing unfractionated heparin and endothelial cell surface heparan sulfate covalently with the spacer concept onto two polymer surfaces, followed by characterization of the surface concentration and in vitro and in vivo platelet adhesion properties under comparable high shear rates for

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microvascular vessels. Oligoamide spacer with a 16-atom chain length on cellulose surface and an 11-atom chain length on silicon surface, respectively, was used for immobilizing HE and ESHS via amino groups of glucosamine to the spacer which was anchored to the polymer surface. The surface concentration was in the range of 7 to 10 pmol/cm2 for HE and 1 to 1.5 pmol/cm2 for ESHS. This is in agreement with a calculated monolayer covering of ESHS and HE. In vitro and preliminary in vivo measurements (beagle, sheep) showed no platelet adhesion on the ESHS coatings, whereas HE showed high platelet adhesion and thrombus formation in vitro as well as in vivo. ESHS coating may be a potential candidate for preparing smooth artificial microvascular blood vessels.

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